CANCER

DOES THE BRAIN MATTER

A COLLABORATION BETWEEN BMI & CC

AKU Collaboration

Brain and Mind Institute

Aga Khan University

AKU Cancer Center

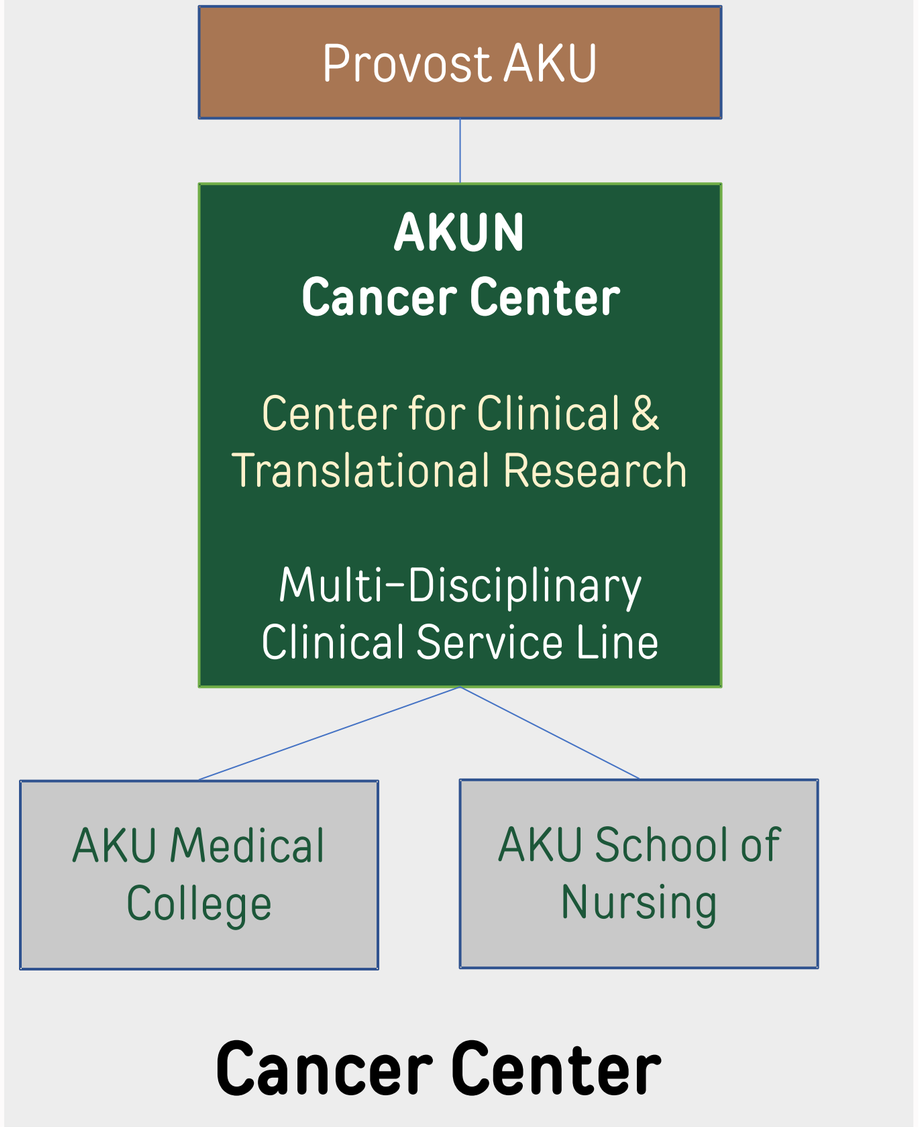
Brain and Mind Institute

THE AGA KHAN UNIVERSITY

“ The Heart and Cancer Centre represents a critical investment in the people of the region…Let me mention two investment areas that are most sadly short-changed in the developing world.

The first is research, and the second is education. The intimate link between quality research and quality health care is well established”

- Aga Khan, 2011



Department of Hematology and Oncology

AKUN Department of Hematology and Oncology

Clinical and Education Programs

- Dean SOM
- CEO – AKUHN

- AKU Clinical Programs
  - Hematology Section (3)
  - Oncology Section (3)
  - Radiation Therapy (3)
  - Palliative Care Section (1)
  - Supportive / Survivorship (1)
- AKU Education Programs
  - **Clinical Investigator Training Program**
  - Fellowship in Hematology
  - **Fellowship in Oncology**
  - Radiation Therapy Resident Training

CLINICAL TRIALS IN AFRICA
Facts & Perspectives

Africa makes up 17% of world's population, bears 25% of the world's burden of illness

Of 2.7 million clinical trials conducted internationally, < 1% conducted in Africa

ClinicalTrials.gov repository 2019 - of 736 clinical trials conducted in Africa

- **26 (3.5%) were cancer-related interventional trials**
- **Only 6 were conducted in countries with predominantly Black patients**
- **Trials in the African continent are predominantly conducted in S. Africa or Egypt**

Historically Time to Trial Activation > 12 months

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GlaxoSmithKline
Oncology

Triple Negative Breast Cancer (TNBC)

A centrally coordinated approach to determine prevalence and clinico-pathologic characteristics of high risk breast cancer in distinct ethnic regions

Contents lists available at ScienceDirect

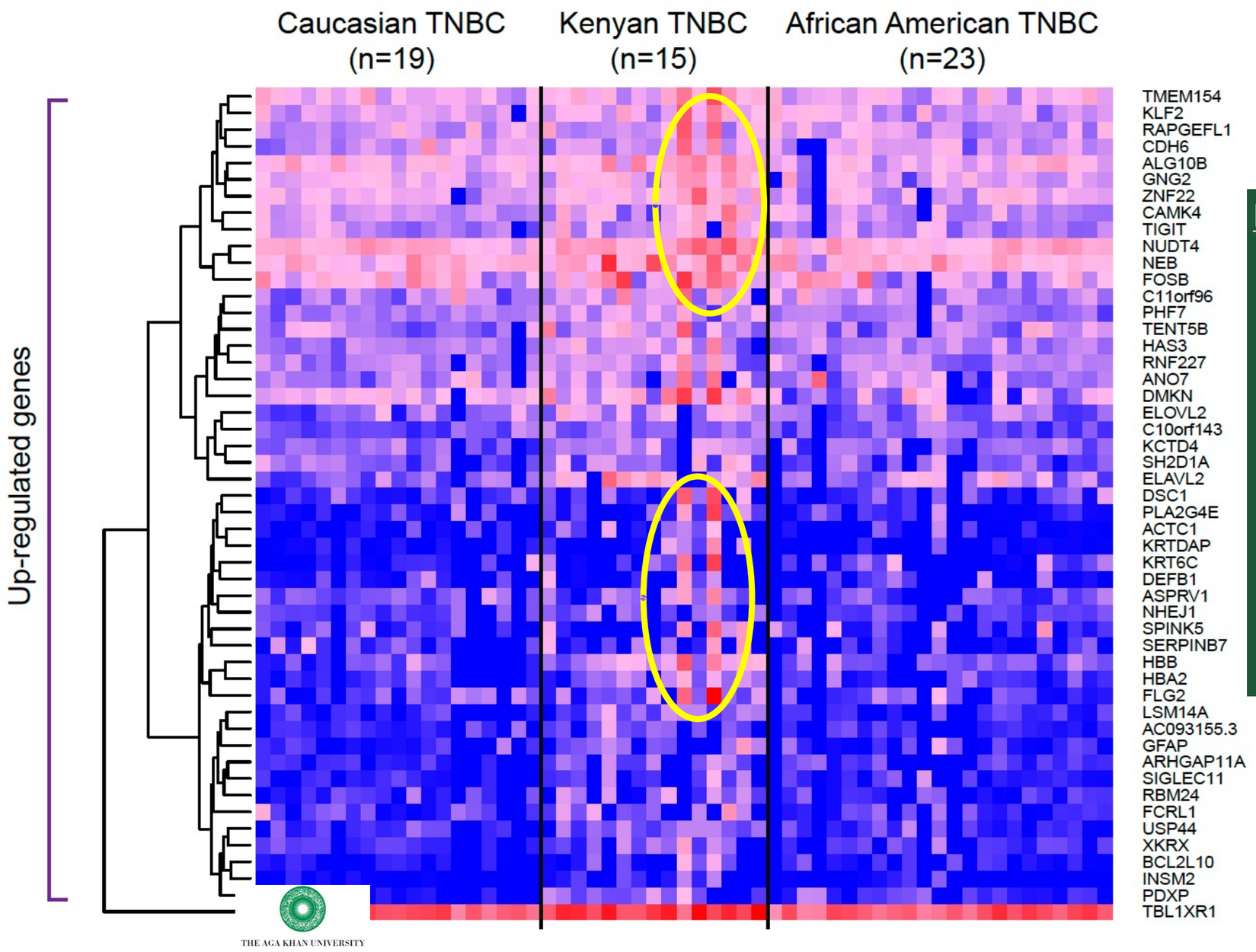
Translational Oncology

journal homepage: www.elsevier.com/locate/tranon

Original Research

Comparative analysis of triple-negative breast cancer transcriptomics of Kenyan, African American and Caucasian Women

Mansoor Saleh[a,b,c,1], Darshan Shimoga Chandrashekar[d,1], Sayed Shahin[e], Sumit Agarwal[d], Hyung-Gyoon Kim[d], Michael Behring[d], Asim Jamal Shaikh[e], Zahir Moloo[e], Isam-Eldin A Eltoum[d], Clayton Yates[d,f], Sooryanarayana Varambally[c,d,2], Upender Manne[c,d,2,*]



Next Steps:

- Identification of upregulated proteins encoded by respective mRNA
- Further determine TNBC specificity of these protein
- Identify potential role as diagnostic or therapeutic protein

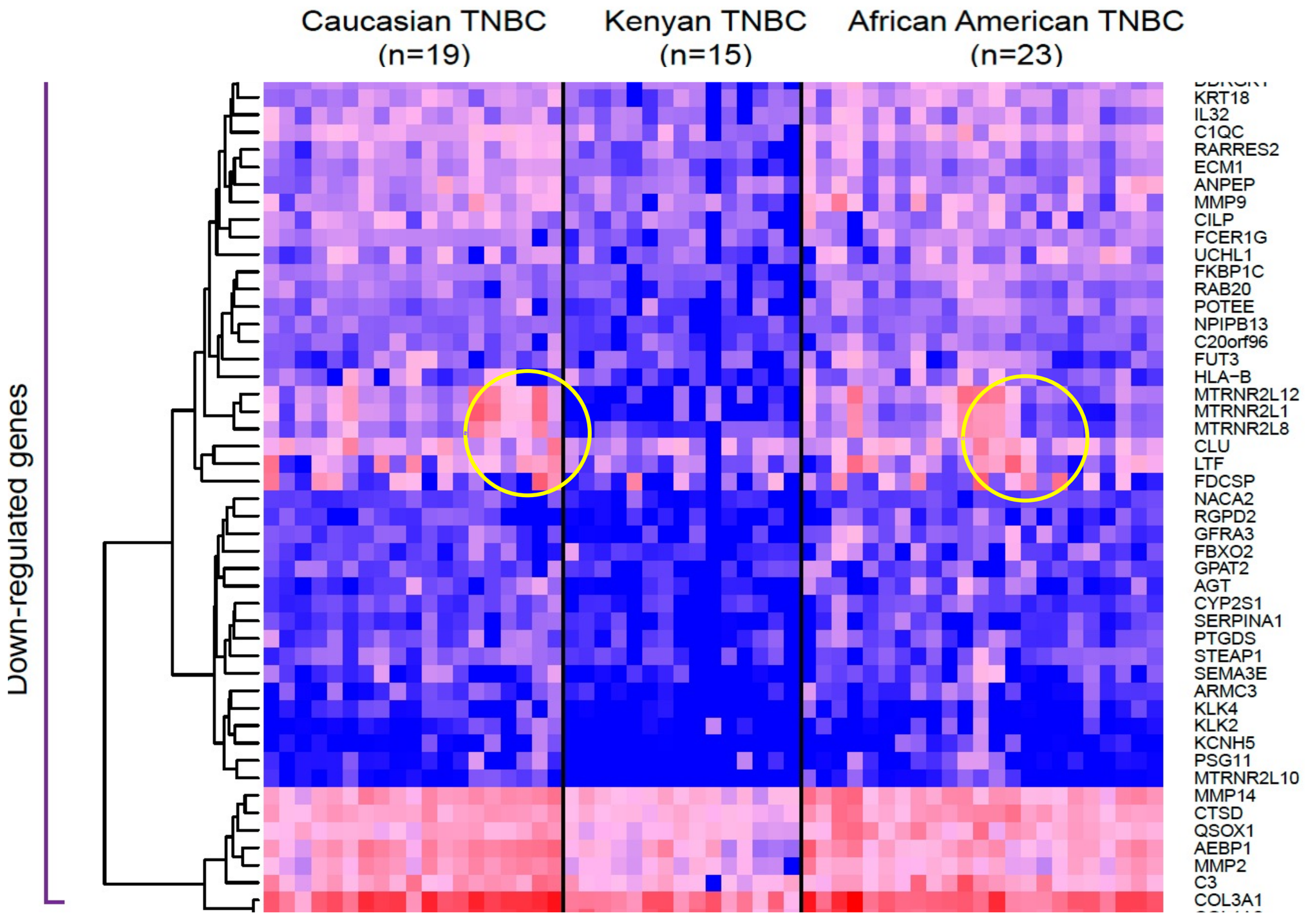
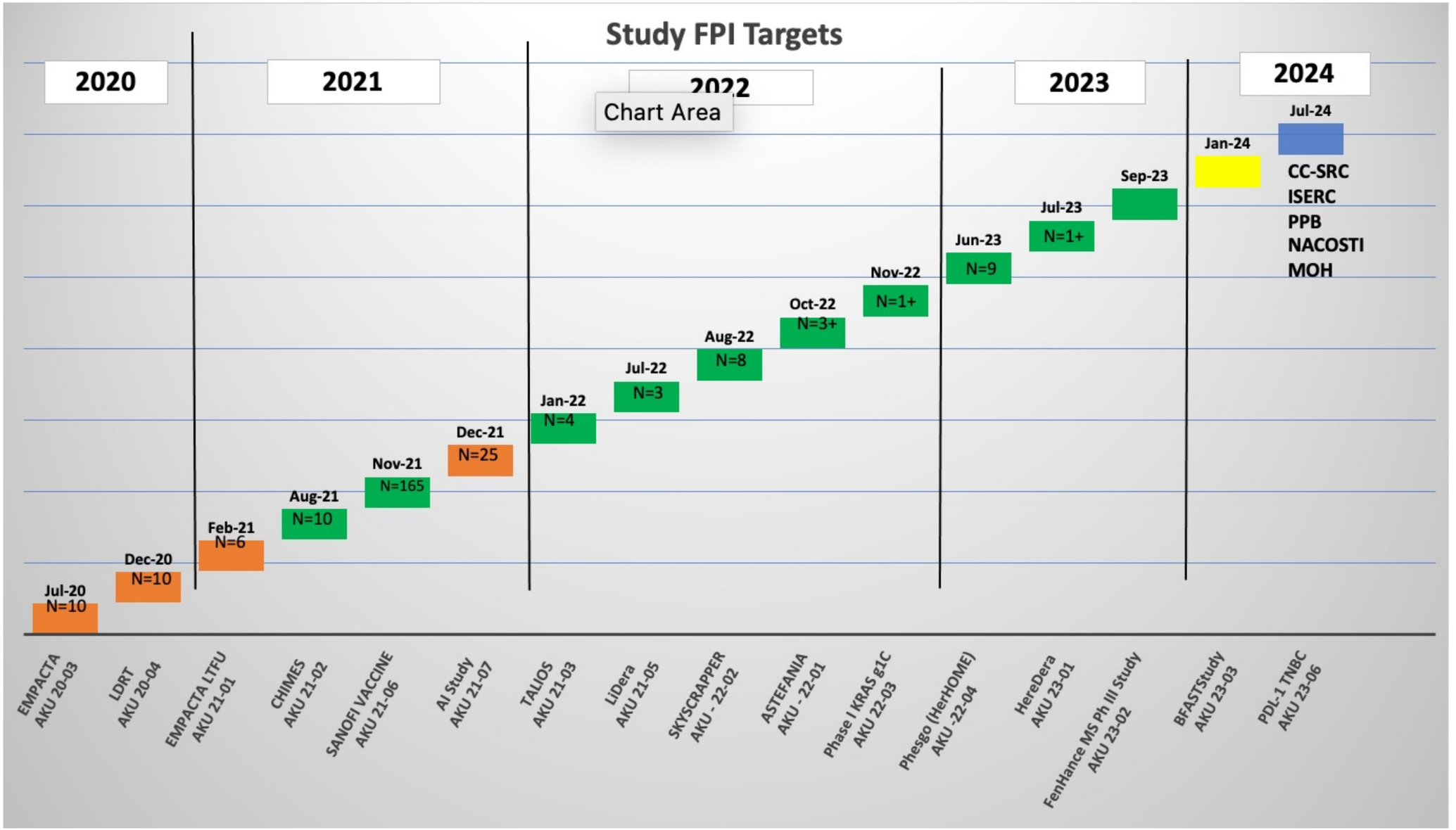


Figure 2
The top 50 commonly down-regulated genes of the KE TNBCs, as compared to CAs and AAs, are shown in

CRU Studies 2020–2023

Updated
Nov 9. 2023



Completed

Ongoing

Upcoming

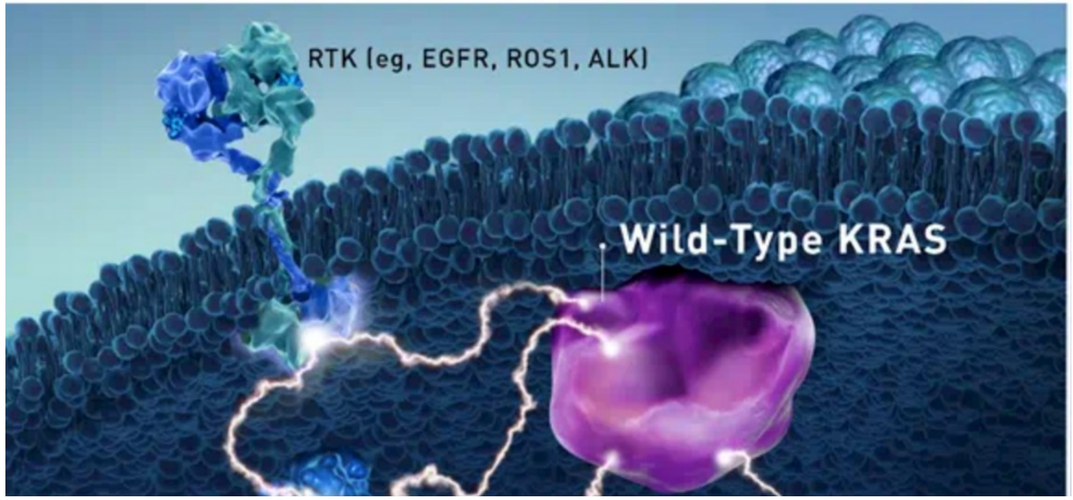
Pending site activation

N = x Number of subjects enrolled
(enrolment closed)

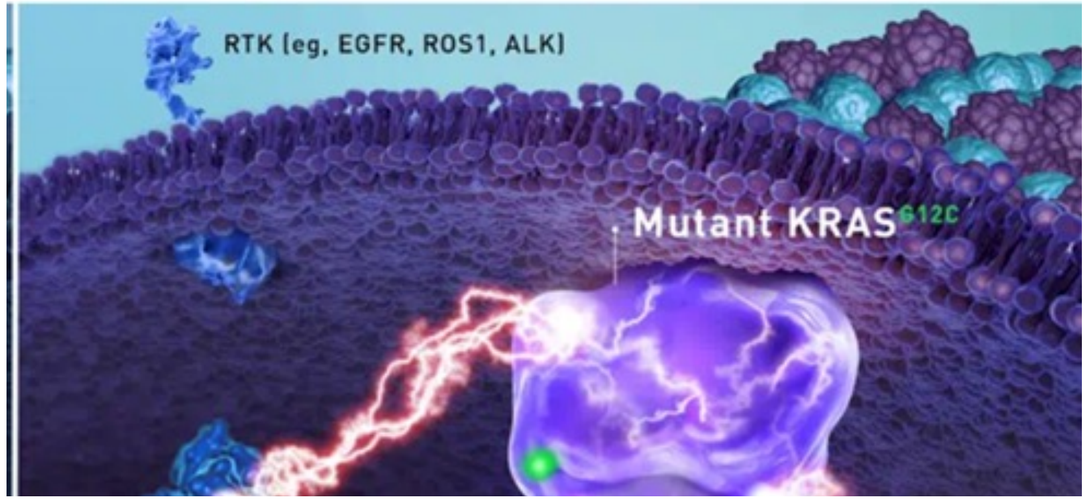
N=X+: Studies currently enrolling

A Phase Ib Study of KRAS G12C Inhibitor in Patient's Whose Tumor Carries the KRAS G12C Alteration

Wild-Type KRAS Signaling



Mutant KRAS^{G12C} Signaling



MORE THAN

30%

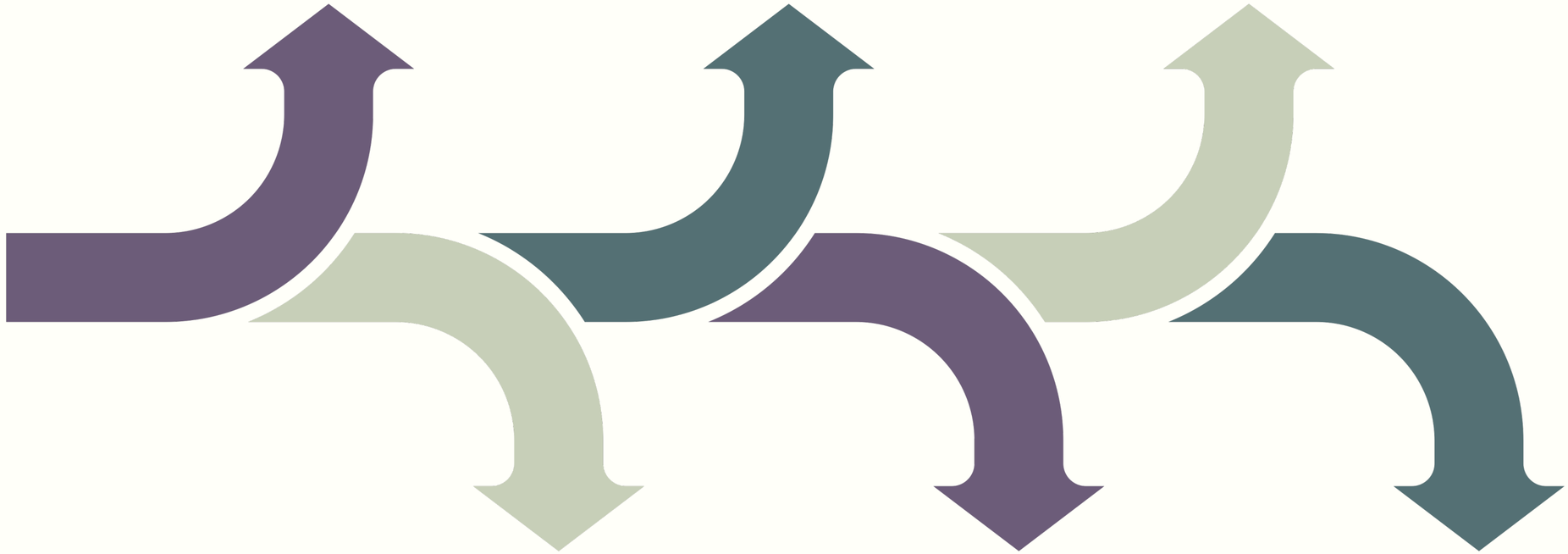
OF ALL HUMAN CANCERS ARE DRIVEN BY MUTATIONS OF

RAS GENES

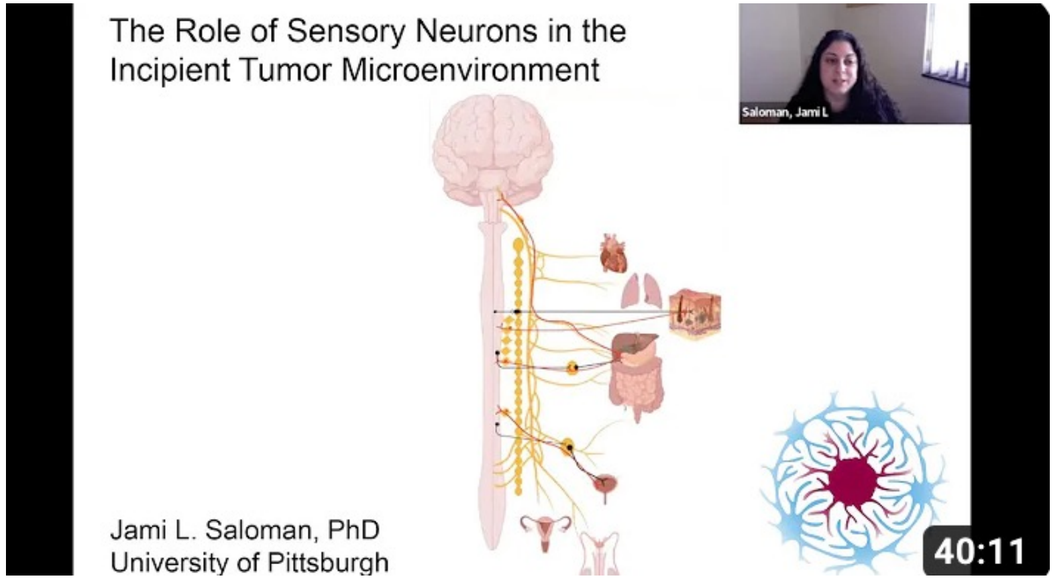
KRAS G12C is an oncogenic driver mutation

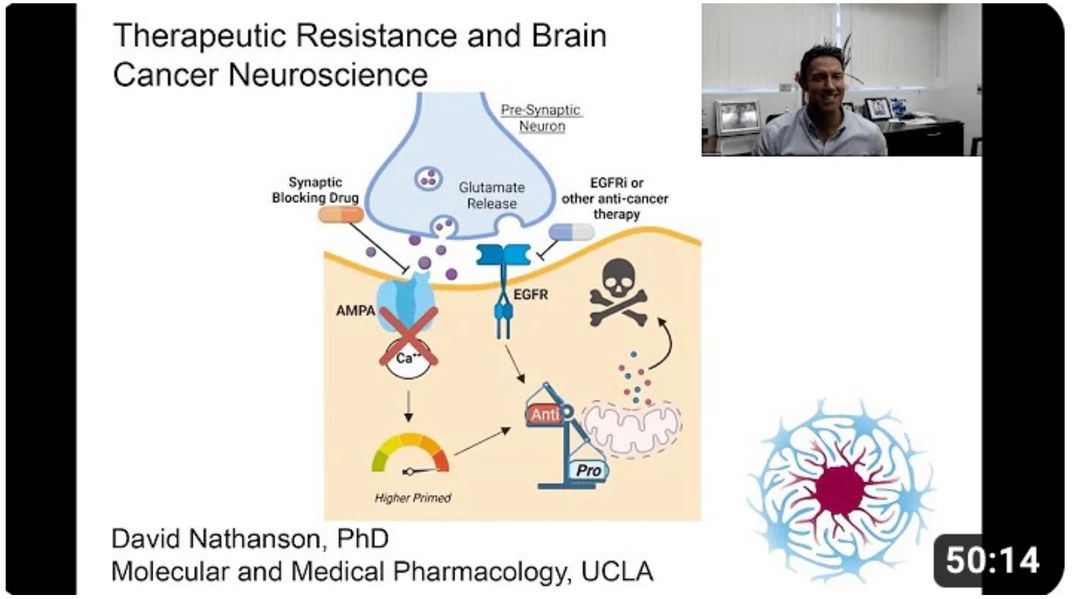
The *KRAS* G12C mutation occurs in about 13% of NSCLC patients, and 1%-3% of colorectal and other solid tumors. G12C is a single point mutation with a glycine-to-cysteine substitution at codon 12.[1,3,4] This substitution favors the activated state of KRAS, amplifying signaling pathways that lead to oncogenesis.[5]

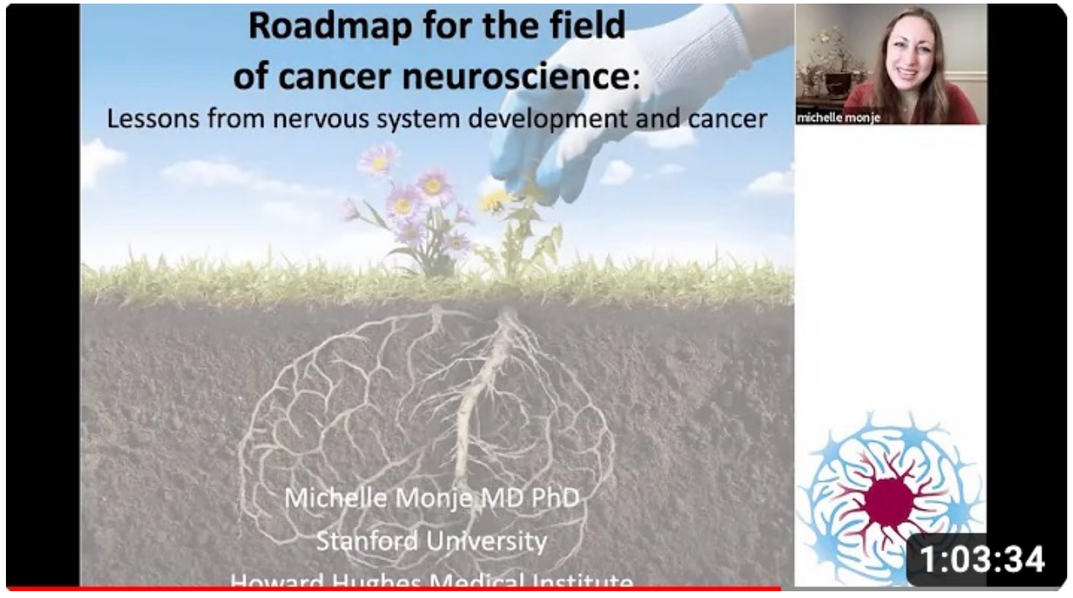
mental health

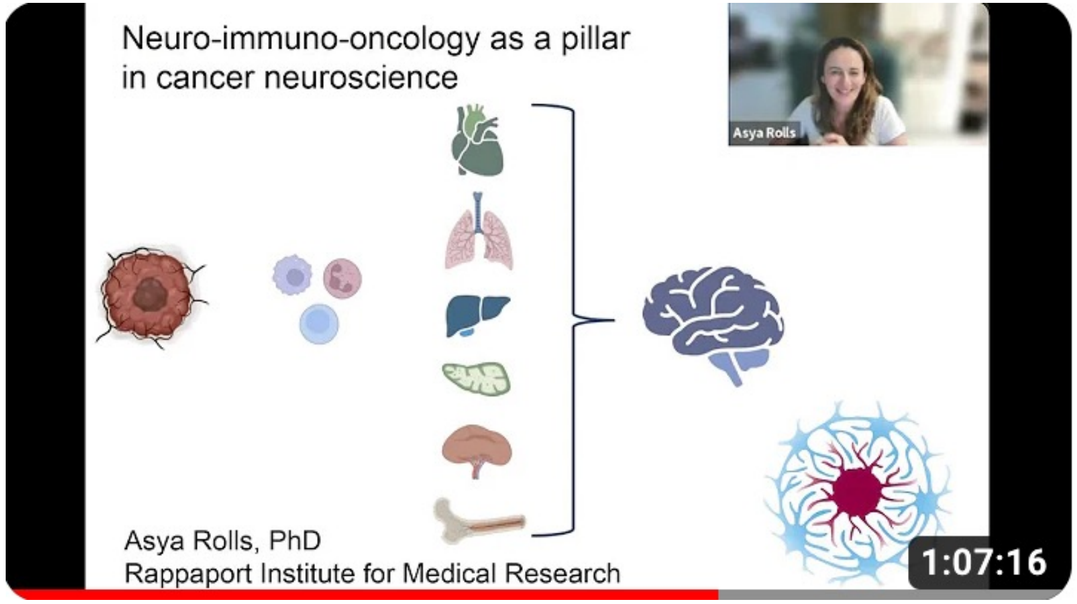


Cancer Neuroscience

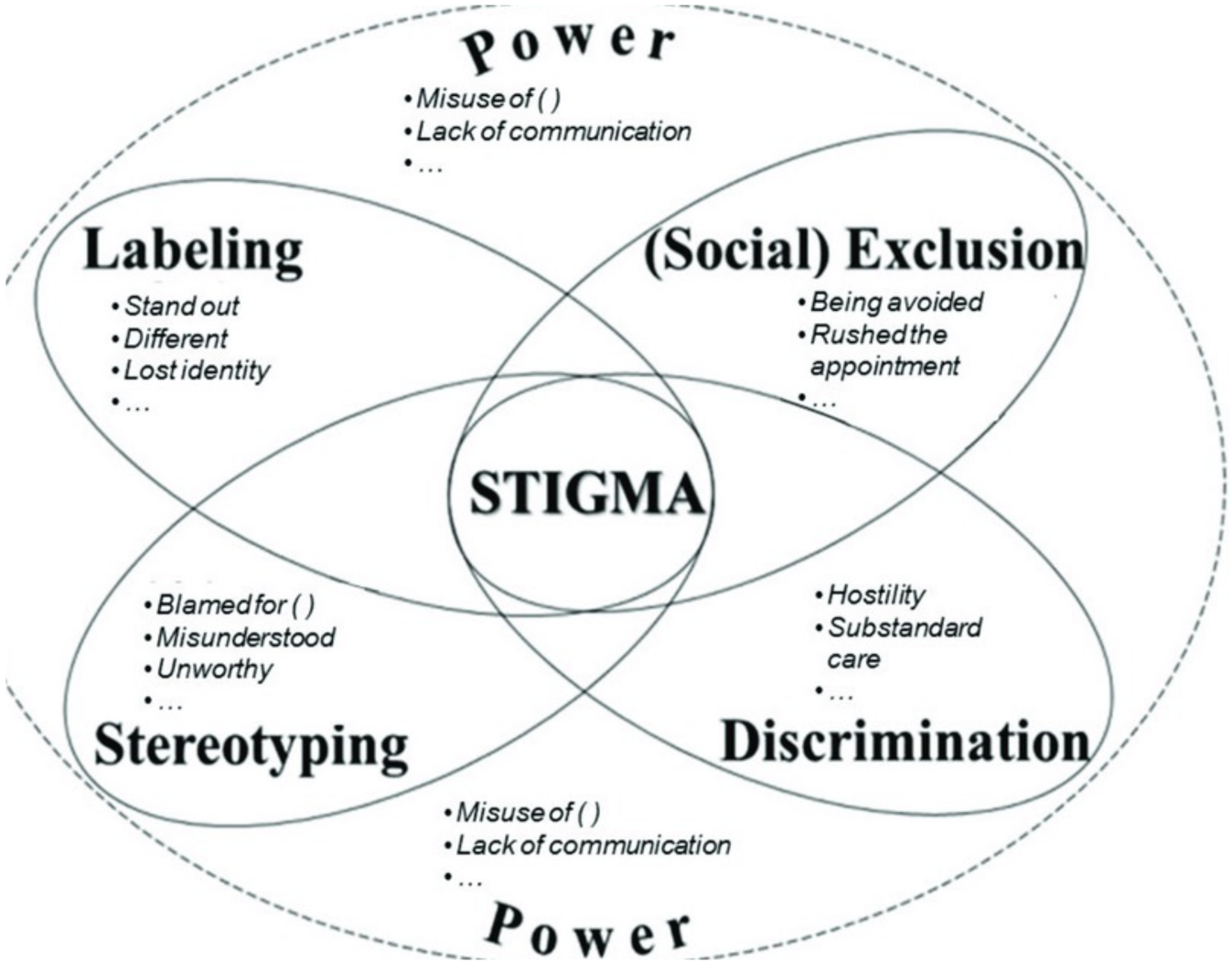








Background



What is Stigma?

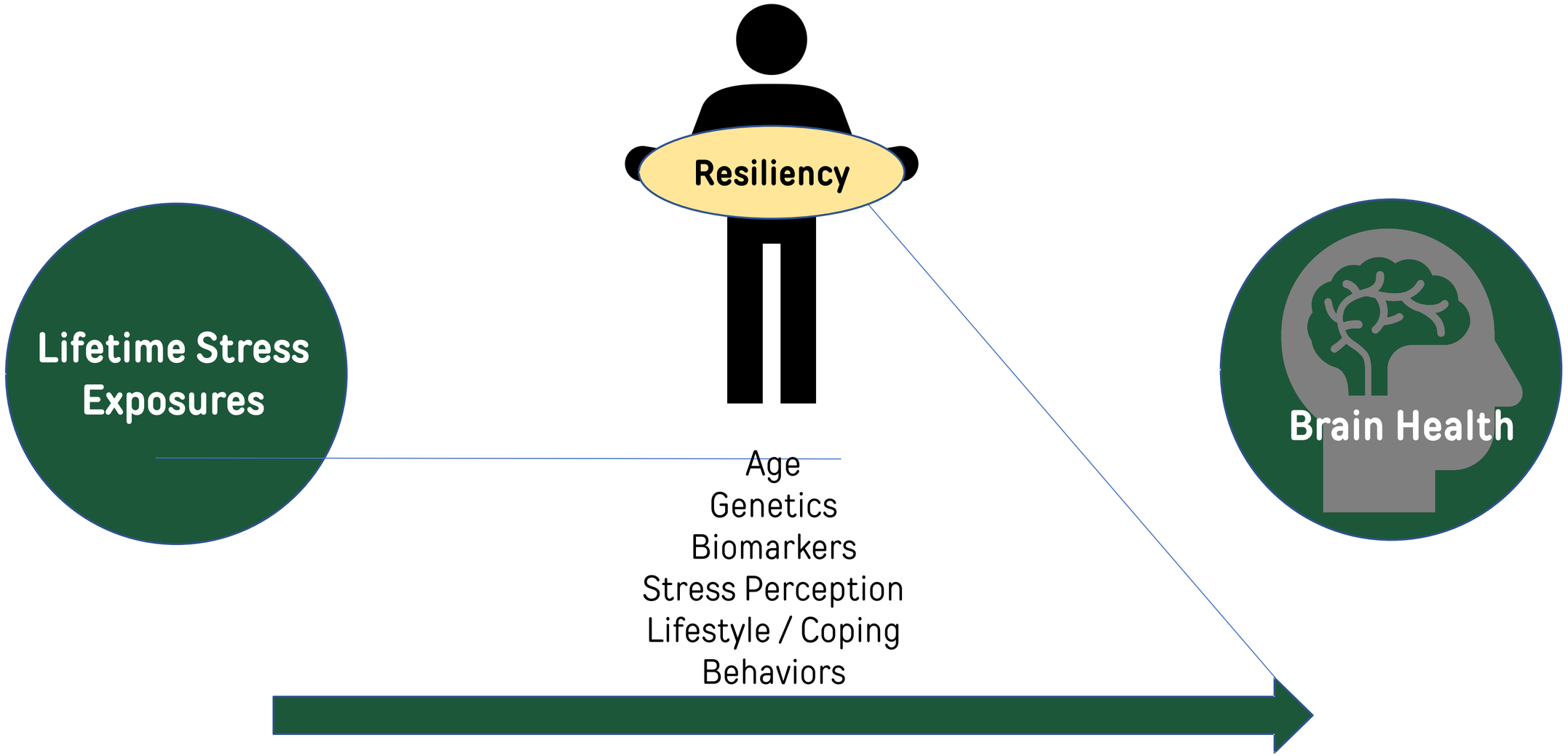
- A social process in which individuals with certain attributes or behaviors ***lose social value***

- Examples of stigmatized health conditions:
  - HIV and AIDS
  - Tuberculosis
  - Obesity
  - Mental illness
  - Substance abuse disorders
  - **BREAST CANCER**

Overall Summary

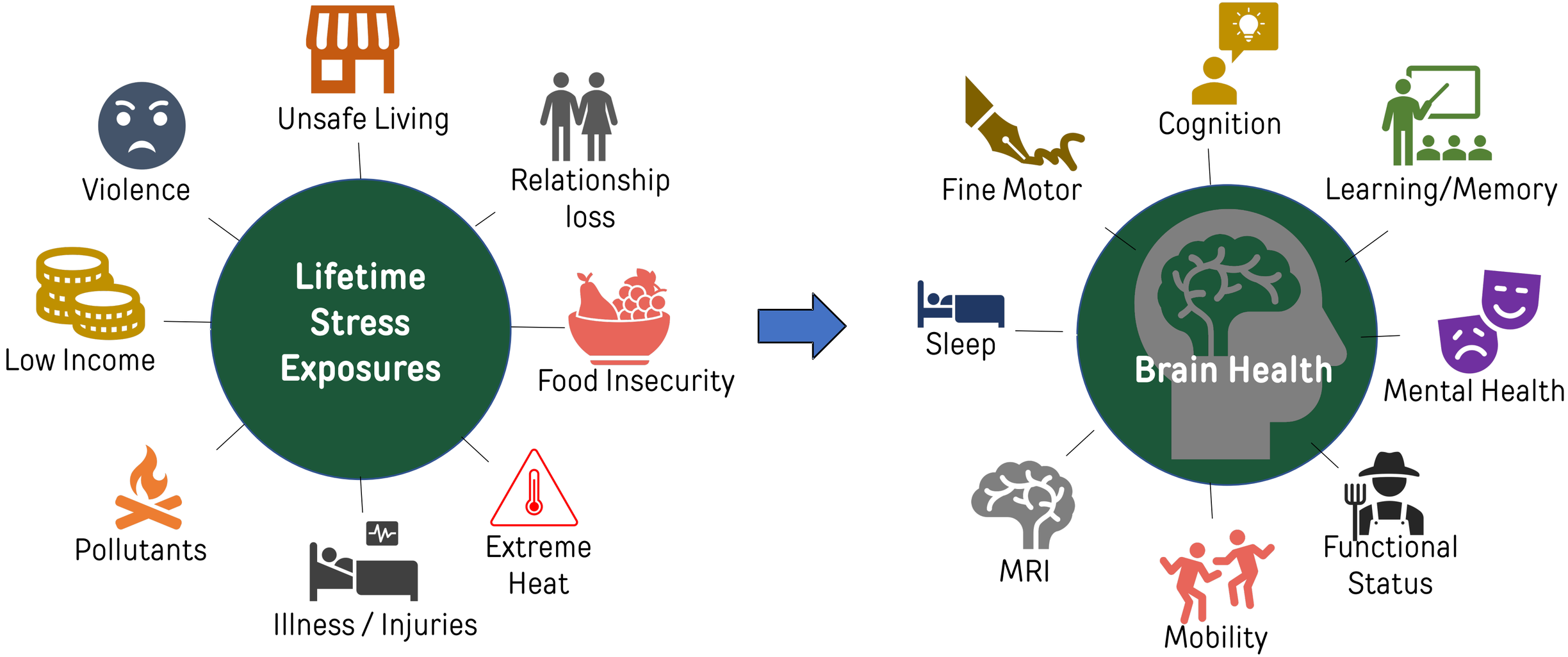
- Breast cancer stigma items were endorsed by a majority of women, with slightly higher scores among the newly diagnosed (ns).
- Breast cancer stigma scores were significantly associated with anxiety among all patients
- Breast cancer stigma scores were significantly associated with depression
    - 13.3% of women reported major or severe depression
    - 25.0% of women experienced moderate or severe anxiety
- Financial stress and self-perceived cancer burden were highly prevalent, with significantly higher financial stress reported in newly diagnosed women.

Resiliency can promote brain health, even in the context of stress

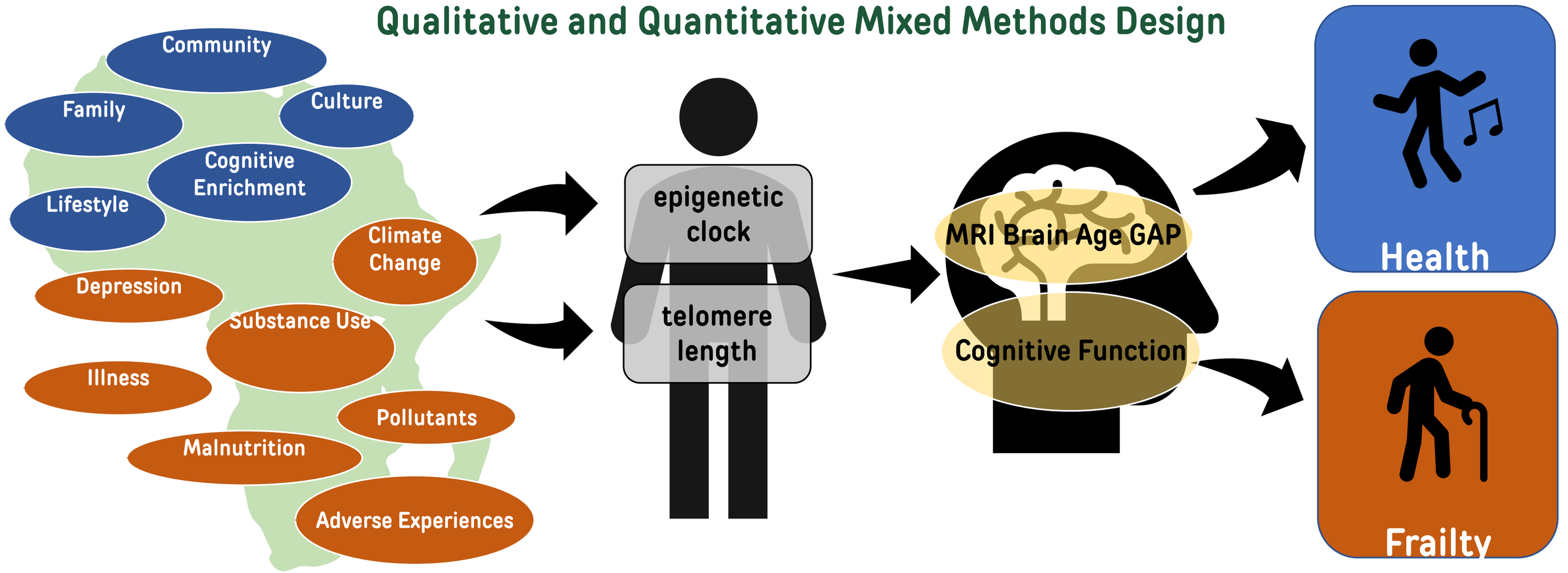


Our project will investigate the biopsychosocial basis for resiliency

Lifetime Stress Exposures can Negatively Impact Brain Health and Accelerate Brain Aging



Multi-Disciplinary and Multi-Level Investigation: Qualitative and Quantitative Mixed Methods Design

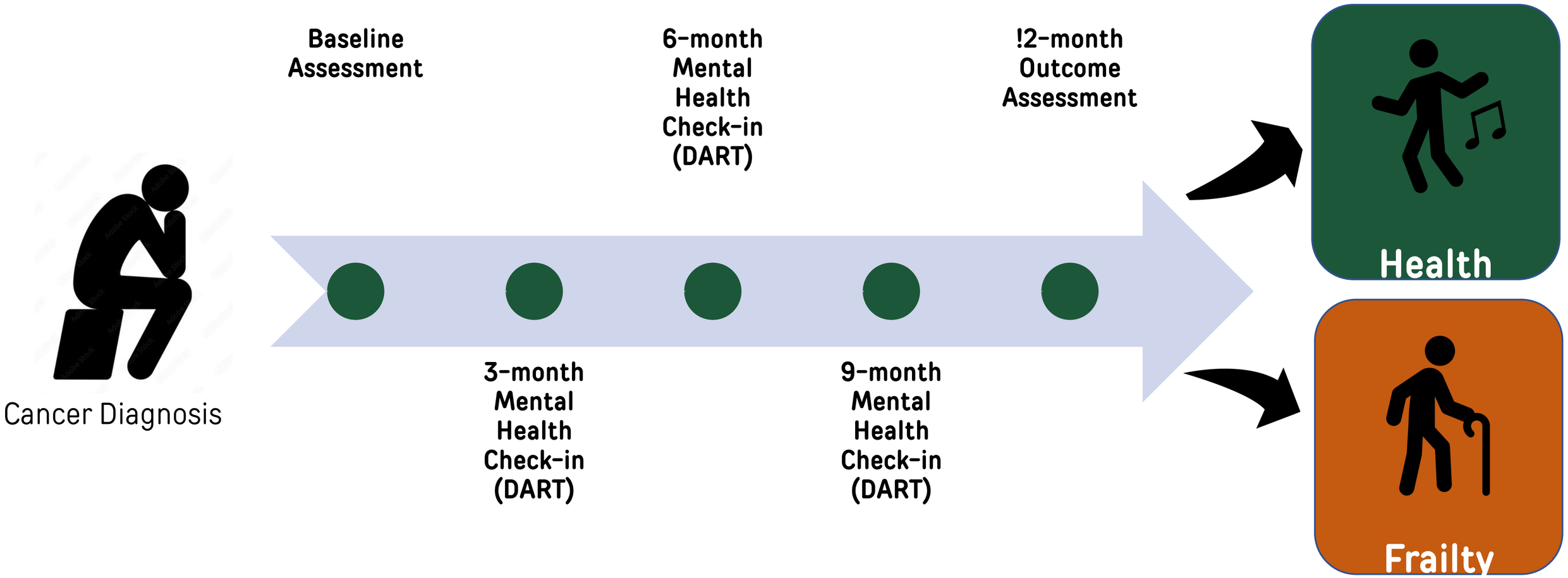


Medical Anthropology Core | Biomarker Core | Cancer Core | Imaging and Cognition Core

Age 45 ---------- Study Span ---------- Age 90+

Lifespan

Longitudinal Tracking of Patients with Newly Diagnosed Cancer to Identify Factors that Predict Resiliency versus Accelerated Aging



What Makes A Successful
Clinical Investigator

A good clinician who demonstrates
Commitment to research
Attention to detail
Dedication to compliance
Dedication to documentation
Lead and take responsibility

Clinical research is NOT:
A hobby to be done on the side
A mere extension of clinical work

A good clinician is NOT necessarily
a good clinical investigator

Volume 14 / Issue 6 / June 2018 ▪ Journal of Oncology Practice

2

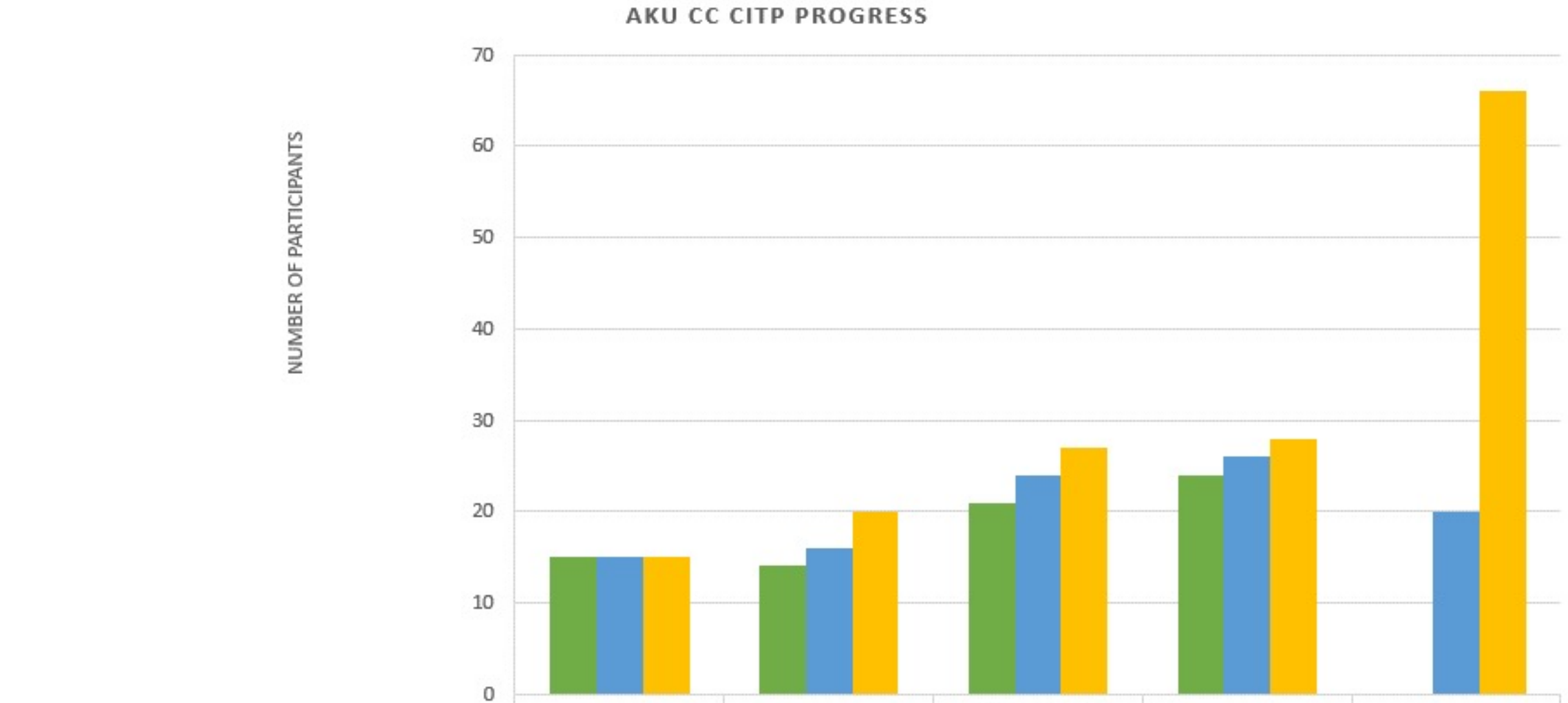
Clinical Investigator Training Program (CITP) – A practical and pragmatic approach to conveying clinical investigator competencies and training to busy clinicians

'P on the Go is a convenient way to participate in the CCTS Clinical Investigator Training Program, an abbreviat
aining curriculum for clinical investigators and trialists. The program promotes excellence in clinical practice and
educates on the research capacities and expertise available to support clinical trials.

Published online 2020 Jun 12. doi: 10.1016/j.conctc.2020.100589 PMID: 32617432

Clinical Investigator Training Program (CITP) – A practical and pragmatic approach to conveying clinical investigator competencies and training to busy clinicians

Mansoor Saleh,[a] Gurudatta Naik,[a,*] Penelope Jester,[b] Cynthia Joiner,[c] Elizabeth Westfall,[d] David W. Kimberlin,[b] James Willig,[e] David Redden,[f] Juliette Southworth,[b] and Mark T. Dransfield[d]



	Apr-21	Nov-21	January 2023 (NOVA-AKU)	Jun-23	Sep-23
Number of participants who completed CITP	15	14	21	24	
Number of Participants who attended CITP workshop	15	16	24	26	20
Number of applicants	15	20	27	28	66

CITP

Curriculum Overview

Introduction to Clinical Research and GCP

Ethical consideration in the conduct of Clinical Trials

The Phase of Clinical Research
Phase I – IV Studies

Clinical research study design
Informed consent Process

Study Investigators and Staff Roles & responsibilities

Developing a clinical Protocol
Budgeting for clinical Trial
Time to Trial Activation.

Protocol writing in groups.
Presentation of Mock Protocols and discussion

Qualitative and Mixed method research Studies
Statistical Concepts in Clinical research

+ 3 month on-line modules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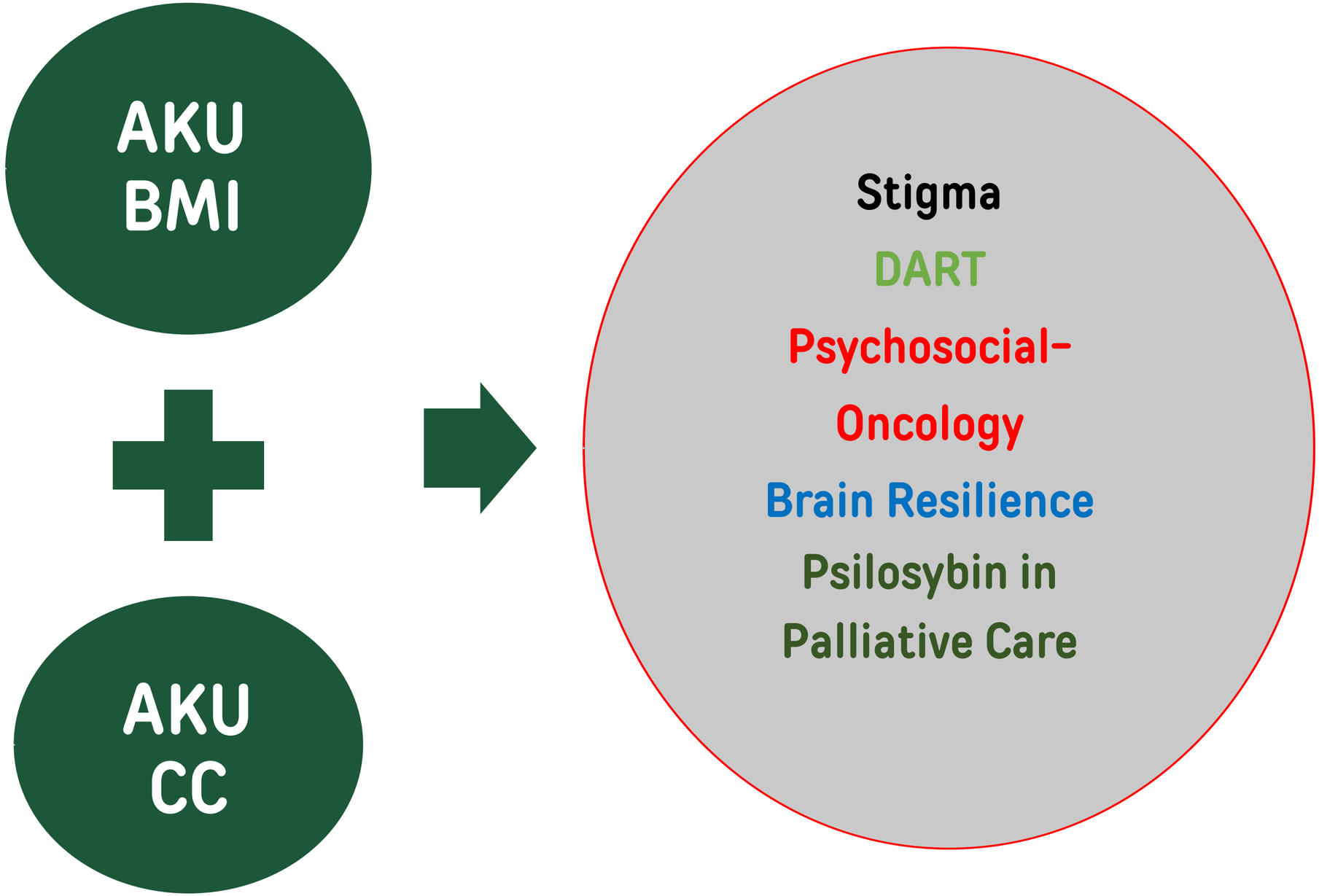
AKU
BMI
AKU
CC
Stigma
DART
Psychosocial-
Oncology
Brain Resilience
Psilosybin in
Palliative Care


A drug called HOPE - TUMAINI